

display screen **224** is visible to a user of the media player **202** through an opening **225** in the housing **222**, and through a transparent wall **226** that is disposed in front of the opening **225**. Although transparent, the transparent wall **226** may be considered part of the housing **222** since it helps to define the shape or form of the media player **202**.

[0081] The media player **202** also includes the touch pad **200** such as any of those previously described. The touch pad **200** generally consists of a touchable outer surface **231** for receiving a finger for manipulation on the touch pad **230**. Although not shown in **FIG. 13**, beneath the touchable outer surface **231** is a sensor arrangement. The sensor arrangement includes a plurality of sensors that are configured to activate as the finger sits on, taps on or passes over them. In the simplest case, an electrical signal is produced each time the finger is positioned over a sensor. The number of signals in a given time frame may indicate location, direction, speed and acceleration of the finger on the touch pad, i.e., the more signals, the more the user moved his or her finger. In most cases, the signals are monitored by an electronic interface that converts the number, combination and frequency of the signals into location, direction, speed and acceleration information. This information may then be used by the media player **202** to perform the desired control function on the display screen **224**. For example, a user may easily scroll through a list of songs by swirling the finger around the touch pad **200**.

[0082] In addition to above, the touch pad may also include one or more movable buttons zones A-D as well as a center button E. The button zones are configured to provide one or more dedicated control functions for making selections or issuing commands associated with operating the media player **202**. By way of example, in the case of an MP3 music player, the button functions may be associated with opening a menu, playing a song, fast forwarding a song, seeking through a menu, making selections and the like. In most cases, the button functions are implemented via a mechanical clicking action.

[0083] The position of the touch pad **200** relative to the housing **222** may be widely varied. For example, the touch pad **200** may be placed at any external surface (e.g., top, side, front, or back) of the housing **222** that is accessible to a user during manipulation of the media player **202**. In most cases, the touch sensitive surface **231** of the touch pad **200** is completely exposed to the user. In the illustrated embodiment, the touch pad **200** is located in a lower, front area of the housing **222**. Furthermore, the touch pad **230** may be recessed below, level with, or extend above the surface of the housing **222**. In the illustrated embodiment, the touch sensitive surface **231** of the touch pad **200** is substantially flush with the external surface of the housing **222**.

[0084] The shape of the touch pad **200** may also be widely varied. Although shown as circular, the touch pad may also be square, rectangular, triangular, and the like. More particularly, the touch pad is annular, i.e., shaped like or forming a ring. As such, the inner and outer perimeter of the touch pad defines the working boundary of the touch pad.

[0085] The media player **202** may also include a hold switch **234**. The hold switch **234** is configured to activate or deactivate the touch pad and/or buttons associated therewith. This is generally done to prevent unwanted commands by the touch pad and/or buttons, as for example, when the

media player is stored inside a user's pocket. When deactivated, signals from the buttons and/or touch pad are not sent or are disregarded by the media player. When activated, signals from the buttons and/or touch pad are sent and therefore received and processed by the media player.

[0086] Moreover, the media player **202** may also include one or more headphone jacks **236** and one or more data ports **238**. The headphone jack **236** is capable of receiving a headphone connector associated with headphones configured for listening to sound being outputted by the media device **202**. The data port **238**, on the other hand, is capable of receiving a data connector/cable assembly configured for transmitting and receiving data to and from a host device such as a general purpose computer (e.g., desktop computer, portable computer). By way of example, the data port **238** may be used to upload or download audio, video and other images to and from the media device **202**. For example, the data port may be used to download songs and play lists, audio books, ebooks, photos, and the like into the storage mechanism of the media player.

[0087] The data port **238** may be widely varied. For example, the data port may be a PS/2 port, a serial port, a parallel port, a USB port, a Firewire port and/or the like. In some cases, the data port **238** may be a radio frequency (RF) link or optical infrared (IR) link to eliminate the need for a cable. Although not shown in **FIG. 12**, the media player **202** may also include a power port that receives a power connector/cable assembly configured for delivering powering to the media player **202**. In some cases, the data port **238** may serve as both a data and power port. In the illustrated embodiment, the data port **238** is a Firewire port having both data and power capabilities.

[0088] Although only one data port is shown, it should be noted that this is not a limitation and that multiple data ports may be incorporated into the media player. In a similar vein, the data port may include multiple data functionality, i.e., integrating the functionality of multiple data ports into a single data port. Furthermore, it should be noted that the position of the hold switch, headphone jack and data port on the housing may be widely varied. That is, they are not limited to the positions shown in **FIG. 13**. They may be positioned almost anywhere on the housing (e.g., front, back, sides, top, bottom). For example, the data port may be positioned on the bottom surface of the housing rather than the top surface as shown.

[0089] **FIGS. 17 and 18** are diagrams showing the installation of an input device **250** into a media player **252**, in accordance with one embodiment of the present invention. By way of example, the input device **250** may correspond to any of those previously described and the media player **252** may correspond to the one shown in **FIG. 13**. As shown, the input device **250** includes a housing **254** and a touch pad assembly **256**. The media player **252** includes a shell or enclosure **258**. The front wall **260** of the shell **258** includes an opening **262** for allowing access to the touch pad assembly **256** when the input device **250** is introduced into the media player **252**. The inner side **264** of the front wall **260** includes a channel or track **264** for receiving the input device **250** inside the shell **258** of the media player **252**. The channel **264** is configured to receive the edges of the housing **254** of the input device **250** so that the input device **250** can be slid into its desired place within the shell **258**. The shape